

Table 1: Proton Driver Parameters of Present, Phase I and Phase II (09/13/00)

	Present	Phase I (MI+ ν -factory)	Phase II ($\mu\mu$ -collider)
Linac (operating at 15 Hz)			
Kinetic energy (MeV)	400	400	1000
Peak current (mA)	40	60	80
Pulse length (μ s)	25	90	200
H^- per pulse	6.3×10^{12}	3.4×10^{13}	1×10^{14}
Average beam current (μ A)	15	81	240
Beam power (kW)	6	32	240
Pre-booster (operating at 15 Hz)			
Extraction kinetic energy (GeV)			3
Protons per bunch			2.5×10^{13}
Number of bunches			4
Total number of protons			1×10^{14}
Normalized transverse emittance (mm-mrad)			200π
Longitudinal emittance (eV-s)			2
RF frequency (MHz)			7.5
Average beam current (μ A)			240
Beam power (kW)			720
Booster (operating at 15 Hz)			
Extraction kinetic energy (GeV)	8	16	16
Protons per bunch	6×10^{10}	$0.24 (1.7) \times 10^{12}$	2.5×10^{13}
Number of bunches	84	126 (18)	4
Total number of protons	5×10^{12}	3×10^{13}	1×10^{14}
Normalized transverse emittance (mm-mrad)	15π	60π	200π
Longitudinal emittance (eV-s)	0.1	0.1 (0.4)	2
RF frequency (MHz)	53	53 (7.5)	7.5
Extracted bunch length σ_t (ns)	0.2	3	1
Average beam current (μ A)	12	72	240
Target beam power (kW)	100	1200	4000